

Title (en)
IMPROVED DURABILITY METALLIC-CERAMIC TURBINE AIR SEALS

Publication
EP 0185603 B1 19891108 (EN)

Application
EP 85630204 A 19851127

Priority
US 67579784 A 19841128

Abstract (en)
[origin: EP0185603A1] An improved durability turbine air seal comprises a metallic substrate, a metallic bond coat on the substrate, a continuously graded metal-ceramic layer on the bond coat and an outer layer of pure ceramic. The continuously graded metal-ceramic layer consists of a ceramic material having a reduced oxygen permeability compared to the zirconia material used in the prior art and a metallic material having a high resistance to oxidation. The seal is fabricated by plasma spraying with controlled substrate temperatures to induce in the sample a controlled strain distribution so as to make the seal resistant to failure in service. Other concepts for reducing the liability of the seal to failure by oxidation are described.

IPC 1-7
C23C 4/10

IPC 8 full level
C23C 4/06 (2006.01); **C23C 4/02** (2006.01); **C23C 4/10** (2006.01); **F01D 11/08** (2006.01); **F01D 11/12** (2006.01); **F02C 7/28** (2006.01)

CPC (source: EP)
C23C 4/02 (2013.01); **C23C 4/11** (2016.01); **F01D 11/122** (2013.01)

Citation (examination)
US 4481237 A 19841106 - BOSSHART GEORGE S [US], et al

Cited by
EP0253754A1; AT396120B; EP1382707A1; US6764771B1; AT396119B; CN104841619A; US6127048A; EP0605196A1; EP3133251A1; GB2380492A; EP0223104A1; EP0965730A3; GB2252567A; GB2252567B; DE102013213386B3; EP2824281A1; US10024192B2; US10309002B2; GB2204881A; GB2204881B; EP3421732A3; WO9804759A1; WO9634128A1; WO9324672A1; WO2004007787A1; US10294962B2; US10385725B2; US10989066B2

Designated contracting state (EPC)
DE GB IT

DOCDB simple family (publication)
EP 0185603 A1 19860625; EP 0185603 B1 19891108; DE 3574168 D1 19891214; JP H0340105 B2 19910617; JP S61153269 A 19860711

DOCDB simple family (application)
EP 85630204 A 19851127; DE 3574168 T 19851127; JP 26824285 A 19851128